

November 16, 1998

TO: Roundtable Members

FM: Cynthia Stewart, Manager
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RE: North Soil Work

In the Winter of 1996-97, American Avionics was in the process of constructing their new facility. During the geotechnical soils investigation work, some contaminated soils were found on the site. The contaminated soil was stockpiled on the building site until an agreement could be reached on how it would be handled. In an effort to minimize the cost to the Airport and to prevent delays to the project, some of the contaminated soil was mixed with cement to create a structural fill for the building footings. The petroleum in this structural fill would be stable and not be a hazard. About 1,100 cubic yards of the excess contaminated soil was hauled to the north end of the field.

In August 1997, when the new hangar for Paul Allen was being built, contaminated soil was found in greater quantities and with higher levels of petroleum contamination than encountered on the American Avionics site. This was due to an old underground fuel storage facility, which had leaked in the past. The tanks were removed in 1985 before today's regulations, but the damage had been done. The site was also used in the distant past for more aircraft repair. Due to the extensive excavation work planned for the construction for footings and underground water storage tanks, there was about 12,300 cubic yards of contaminated soil to be ultimately handled.

Initially about 1,000 cubic yards of material from the Allen hangar site was moved up to the north end site. About one month later, another 3,800 cubic yards of material was placed there. The levels of contamination for this soil were 300-4,300 ppm for gasoline and 300-6,000 ppm for diesel/kerosene. Even with these higher levels of petroleum contamination, it was believed that the soil could be remediated through aeration.

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A few months later, an additional 7,500 cubic yards of what was thought to only slightly contaminated soil (0-500 ppm gasoline) from the surface of the Allen site was hauled to the north end site and placed south of the service road. This material, taken from the upper 3 feet of the site, was originally to be hauled to a site off the Airport as fill. But because of the low levels of contamination, the owners of the disposal site didn't want it. Nor did the Airport want the liability of possibly contaminating other sites.

In April 1998 the soil piled in the north end was sampled and tested. Sampling grids, 50 foot square, were established for the various soil piles. Samples were taken from the grids which were randomly selected to provide a representative picture of the levels of contamination. Since it was expected that there would still be some contamination, we didn't want to go to the expense of testing all the grids until we knew the soil was generally clean.

The results showed that in some piles, the levels of gasoline and diesel to have dropped to 30-800 ppm, which was a good sign that the aeration process was working. Some of the piles were below MCTA cleanup threshold levels. However, tests for heavy oils came back at 600-4000 ppm for some of the grid areas sampled including the south pile which was thought to be cleaner material. After talking with our consultant, Olympus Environmental, it was decided to remove the soil from the grid areas with the higher concentrations of heavy oils and to take it to TPS Technologies Inc. in Fife for thermal treatment and recycling. This was done because the heavy oils above certain concentrations would not readily cleanup through aeration, even after several years.

To fulfill the obligation for the south pile of soil by the contractor for the Paul Allen hangar and to meet the design standards for the new FAA ILS localizer, which was being installed near the north piles, all of the piles were regraded. After large rocks were removed, the area was hydroseeded to stabilize the soil to prevent erosion of the surface from rainfall. Some means of surface stabilization is required as a part of the grading permit.

Next May, we will have more samples taken on the piles to see where we are at with the contamination levels. Hopefully, most of the areas will be clean enough to leave alone. If there are areas with contamination above the cleanup levels, these areas will be tilled. Aeration through tilling is more effectively done during the summer months when the temperatures are higher. Later in the September, more sampling and testing will be done.

This process of tilling and sampling may have to be repeated until the results show the cleanup efforts to be successful.